

## MCR DIVISION 1 MODULE WIRING STANDARDS

Division 1 will be using red, yellow, and white Power Pole housings on the modules with a Power Pole(PP) socket.

When using the Kato wiring product, 24-818, with the rail joiner attached and with the Kato plug, mark the wire where it is long enough to reach the PP socket hole with a little slack. At your mark, cut the wire. Then strip 1/2 inch of insulation off. Twist the two (2) blue ends together and insert into the PP 15 connector and crimp or solder the connection. Repeat for the white wire. See Photo 1 and Photo 2

With the small size of the wire, a PP 15 connector will give a tighter connection. If using a PP30 connector, take extra care in making sure you have a tight connection.

Figure 2 shows what the finished product should look like. This provides a PP connector for our power bus, but also a Kato plug for setups using Kato connectors.

The 3D printed PP socket requires a different size hole than the PP socket from other suppliers. Refer to Figure 3 for the correct hole size. The socket snaps into the hole. It is recommended to put a pin through the hole in the socket inside the module to hold it in place. It can also be fastened with glue.

Figure 2 shows the correct orientation the the PP connectors in the socket. Kato blue wire will go into the Red or the Yellow PP housing. Kato white will go into PP white housing.

Division 1 will provide the Red and Yellow Power Buses, as well as the pigtails that will connect from the Power Buss to the modules where needed. The Division will also provide the UP7 Loconet Panel for each corner module

When all connections have been made, the wires should be neatly attached to the underside of the module top.

### ACCESSORY POWER

A 12 volt DC Accessory Power buss will be available for switch machines, animation, lights etc. Refer to Figure 1 for the correct connectors and to Figure 4 for the orientation of the connectors.

### FIGURE 1

#### T-TRAK ELECTRICAL STANDARDS & RECOMMENDED PRACTICES

ITEM	T-TRAK STANDARD	DIVISION 1 STANDARD
Connector	Kato Compatible	Anderson Power Pole

No of Modules with Power feed	DC-every 30 feet	DCC--every 8 feet maximum. All corner and junction modules must have track feeders. Modules with DCC accessory decoders powered from the track. Others as necessary.
Track Power Bus Connector	No Standard	30A Anderson Power Pole Horizontal Order: Red-White Yellow-White
Module Track Feeder Color Code	Blue-White-White-Blue	Red-White; Yellow -White Horizontal order: Red-White Yellow-White
Track Feeder	No Standard	Anderson 15A Power Pole Red-White;Yellow-White with Kato Tamiya pigtail.
Track Bus	No Standard	12-gauge with Power Pole connectors. 2', 4' and 8' Long Track Bus cables. 8" Track Bus Feeder sections with 2 Power Pole pigtails. One or two track buses as required by layout configuration.
Accessory Power Bus	No standard	12-gauge with Power Pole connectors, Black-White. 2', 4' , and 8' long Accessory Bus. 8" Accessory Bus Feeder sections with 2 Black-White Power Pole pigtails One or two buses per layout. Vertical order: White Black

Figure by Lloyd Horst

Division 1 will provide the PP connectors and housings for the track power.

## TRACK FEEDERS

With DCC, more feeders are needed than for DC. Especially, as the layout becomes larger and more complex. For DCC controlled layouts it is recommended that all corner modules be equipped with track feeder cables. This ensures that no module is ever more than about 8 feet from a power feed, with most modules within 4 feet.

It is recommended that the following T-TRAK modules be equipped with track feeders:

\* All corner and junction modules

\* Modules with track sections between two turnouts with insulated UniJoiners at the four frog rails of the turnouts (e.g. a passing siding).

\* Modules with DCC stationary decoders to operate turnouts should also have their own track feeders or, as a minimum be located directly besides a module with track feeders.

\* Other modules with specific needs for track power feeders.

## FIGURE 2 TRACK FEEDER POWER POLE CONNECTOR ORIENTATION

<b>RED</b>	WHITE
<b>YELLOW</b>	WHITE

Figure by Lloyd Horst

## FIGURE 3 POWER POLE SOCKET HOLE SIZE

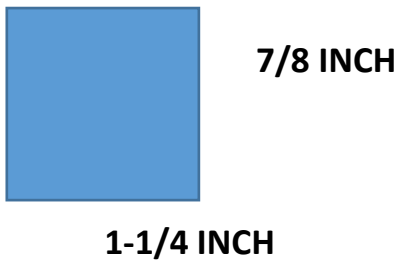


Figure by Lloyd Horst

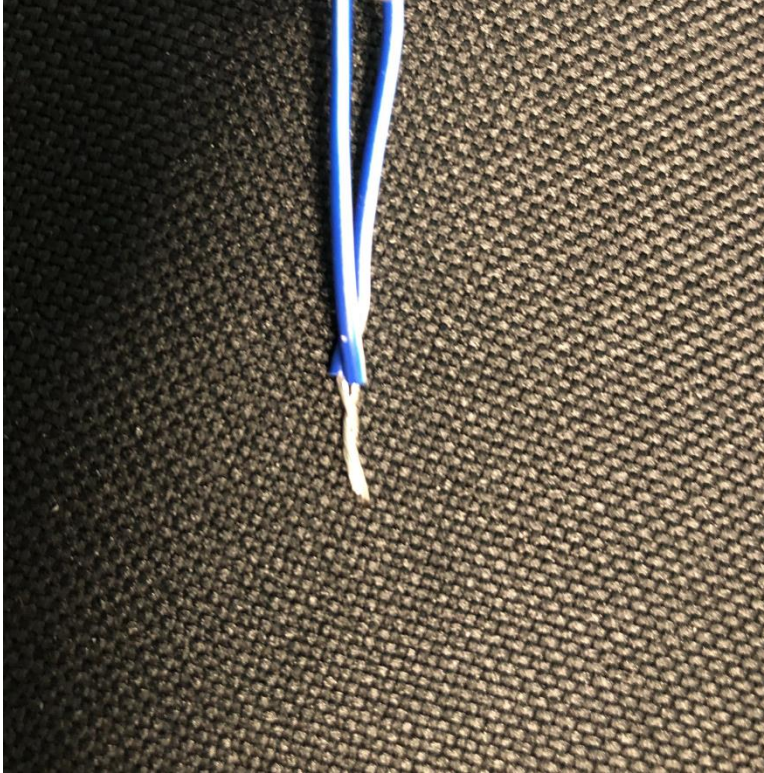
## FIGURE 4 ACCESSORY POWER POLE CONNECTOR ORIENTATION

BLACK	
WHITE	

Figure by Lloyd Horst

## **PHOTO 1 POWER POLE WIRE PREPARTION**

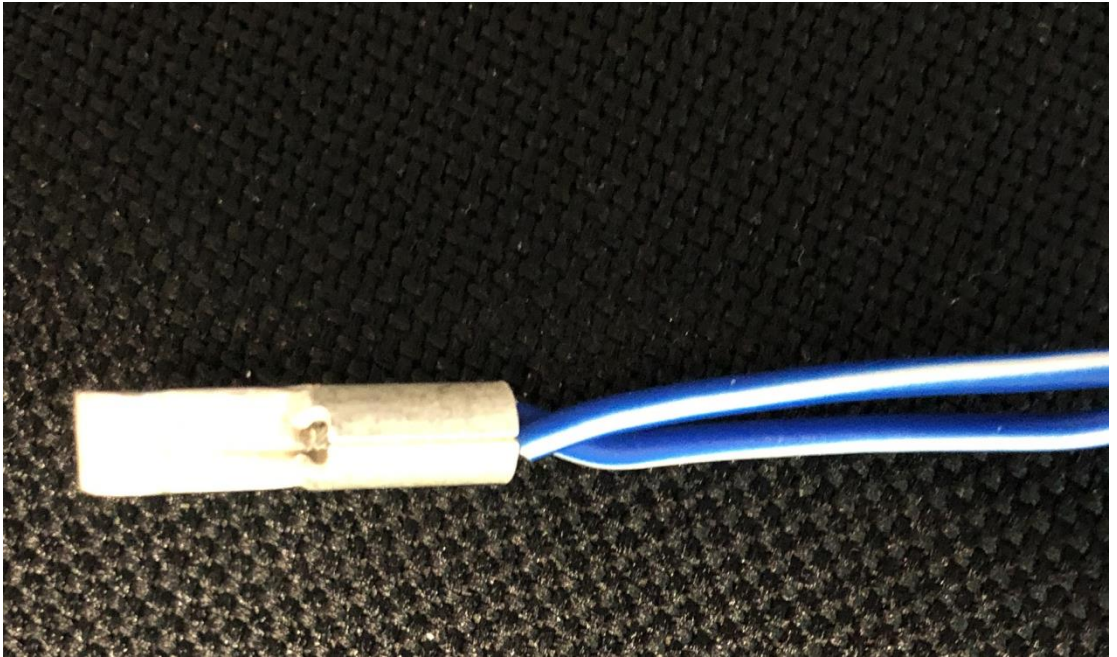
Wires twisted together, ready to crimp or solder.



Lloyd Horst photo

## **PHOTO 2 POWER POLE CONNECTOR**

Wires inserted into the Power Pole connector. Ready to crimp or solder.



Lloyd Horst Photo

Lloyd Horst  
AP Chair  
April 25, 2023

## MODULE BASE COLOR

The module wood base, legs, and any exposed Styrofoam must be painted. The standard color is available at Lowe's. It is a Sherwin Williams color called Black Stone. This is a one coat satin enamel. The size shown is a sample size plenty to paint multiple modules.



Steve Zapytowski Photo



Steve Zapytowski Photo

## SKYBOARDS

The Module Committee has decided to make skyboards optional. If you do elect to make a skyboard, it must follow T-Trak standards.

**FIGURE 1 SKYBOARD CONSTRUCTION**

ITEM	T-TRAK STANDARD	DIVISION 1 RECOMMENDED
Skyboard Required	Optional	Optional
Height Above module	457mm/18" max Make removable	254mm/10 inches from top of base for N Scale 305mm/12 inches from top of base for HO.
Top Corners	-	Rounded top corners 3/4 radius or
Base color	Blue	See Skyboard Color Fig. 2

Figure by Lloyd Horst

The length of the skyboard should be approximately 1/8" less than the width of the module on which it is mounted.. This is to prevent any alignment problem with the skyboard on the adjacent modules.

Anchor with 1/4 x 1 inch bolts, with flat washer and wing nut on the back, 1" in from each end and at the center of modules longer than single ones.

### SKYBOARD COLOR

**Skyboards must be painted front and back.** The front of the skyboard must be a **flat** finish, while the rear must be a gloss finish. This can be achieved by the application of clear gloss over the flat skyboard color. The light blue flat paint standard for skyboards will ensure that all skyboards are the same color as defined below. This is a Behr paint that is available from Home Depot. This paint is the base color of the skyboard, to which one could (if so desired), add clouds, landscape forms, etc., to match the module scenery.

FIGURE 2 SKYBOARD COLOR

P500-4<sup>M</sup>  
Life Force


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The photo is darker than the actual paint chip.

**References:**

Considerations for T-TRAK Modules and Layout, by BBMRA, September 2019  
North Raleigh Model Railroad Club, T-TRAK Standards a& Recommended Practices  
North American T-TRAK Organization, Standards and Recommended Practices,  
February 24, 2020

Lloyd Horst  
Module Chair  
April 25, 2023